Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

 We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

character represented by the absence of all factors. But in avoiding this anomaly, calculation is made more difficult and the only object gained is to lend an unwarranted appearance of reality to what is merely a convenient formula for expressing the observed relations.

G. N. COLLINS

WASHINGTON, D. C.,
　June 30, 1913

SWEDENBORG

To THE EDITOR OF SCIENCE: At the top of the second column of page 100 of SCIENCE for January 17, 1913, I note the following statement by one of your correspondents: "But Swedenborg would be laughed out of a modern court of science."

I find in a brief Life of Swedenborg, by J. Stuart Bogg (Frederick Warne & Co., London and New York, 1911), that Swedenborg was a wide traveler, a friend of learned men, a student of astronomy, metallurgy and anatomy, an inventor, a practical-minded, useful member of the Swedish House of Nobles, assessor in the Royal College of Mines and an author of numerous scientific works. Among his inventions were a plan for a submarine boat and a plan for a flying machine based on the now known principles of heavier-than-air machines. He declared that a very slight force would be sufficient to keep such machines up, but he knew nothing, of course, of gasoline motors. In the domain of astronomy he originated a method for finding terrestrial longitude by means of the moon. In the House of Nobles he took an active interest in such matters as the finances of the country, the liquor traffic and the mines. Among his scientific publications were works on chemistry, metallurgy, astronomical methods, observations connected with the physical sciences, and the economy of the animal kingdom. Until he was fifty-five years of age he was wholly occupied in these scientific and practical pursuits and was respected by scholars and patrons of learning at home and abroad.

In a prospectus which lies before me of a new edition of Emanuel Swedenborg's Scientific Works, I see that "Swedenborg's discoveries and theories in various departments of science have awakened an increasing interest among specialists during the past century," that they led the Royal Swedish Academy of Sciences to appoint a Swedenborg committee in 1902, and that this academy had in 1907 already published Vol. I. of the new edition in the original Latin and Swedish.

In view of these facts it seems strange to me that any one should affirm that "Swedenborg would be laughed out of a modern court of science." Is it possible that those who would laugh him out have never read his scientific works at all? If so, perhaps they could profitably reflect on the following quotation from Herbert Spencer:

There is a principle which is a bar against all information, which is proof against all argument, and which can not fail to keep a man in everlasting ignorance; this principle is contempt prior to examination.

ANDREW H. WARD

A NEW VARIETY OF JUGLANS CALIFORNICA WATSON

THERE recently appeared in these columns a brief note by N. B. Pierce entitled "A New Walnut." It included a very brief general description which could not be accepted as a diagnosis in the usual meaning of that term. Yet Dr. Pierce stated that he thought it desirable to give the new form a name at that time and that he intended to publish a full description later. But Dr. Pierce did not see fit to cite the diagnostic description of this form which was published (but without reference to a scientific name) in Jepson's "Silva of California." [1] Had he done so the name he proposed would stand, even though unsatisfactory to one who has studied the form carefully.

However, I take it that *Juglans quercifolia* Pierce is a *nomen nudum* and that it still remains to publish a scientific name and diagnosis *together*. Therefore, I take pleasure in recording the same as follows:

New Variety: Juglans californica var. *quercina*. Diagnosis by the undersigned in

[1] Jepson, W. L., "Silva of California," Univ. Calif. Memoirs, Vol. II., 1910, p. 54.

Jepson's "Silva of California,"[2] the same to be reprinted under the above name in University of California Publications, Agricultural Science Series, Vol. II., No. 1 (now in press).

The chief reason for describing this form as a variety rather than a species is that *it does not breed true*. Several tests of seeds from different trees of this form have been made by the writer and in all but one test a number of the seedlings (never the same proportion) are typical *J. californica* in leaf characters. Obviously this is sufficient proof of a relationship which it is highly desirable to indicate by the name employed.

The reason for rejecting the name *quercifolia* is that the leaves are *not* oak-like. They resemble leaves of certain species of *Rhus* more than oaks. For this reason the writer had considered *anacardifolia* as a name, but the leaves are very unlike those of some species of the Anacardiaceæ. On the other hand, in general appearance of the trees this walnut does resemble a small-leaved oak. This is largely due to the habit of growth, the small size of the leaves and the dark green color of the foliage. Hence the name *quercina* is deemed proper, especially when used in varietal rank.

E. B. Babcock

SCIENTIFIC BOOKS

Principia Mathematica. By Alfred North Whitehead, Sc.D., F.R.S., Fellow and late Lecturer of Trinity College, Cambridge, and Bertrand Russell, M.A., F.R.S., Lecturer and late Fellow of Trinity College, Cambridge. Cambridge University Press. 1912. Vol. II. Pp. xviii + 772.

Differential and Integral Calculus. An Introductory Course for Colleges and Engineering Schools. By Lorrain S. Hulburt, Collegiate Professor of Mathematics in the Johns Hopkins University. New York, Longmans, Green and Co. 1912. Pp. xviii + 481.

An Elementary Treatise on Calculus. A Textbook for Colleges and Technical Schools. By William S. Franklin, Barry MacNutt

[2] *Ibid.*

and Rollin L. Charles, of Lehigh University. Published by the authors. South Bethlehem, Pa. 1913. Pp. vi + 292.

The Calculus. By Ellery W. Davis, Professor of Mathematics, the University of Nebraska, assisted by William C. Brenke, Associate Professor of Mathematics, the University of Nebraska. Edited by Earl Raymond Hedrick. New York, The Macmillan Company. 1912. Pp. xx + 446.

Readers who desire to gain with a minimum of effort a fair knowledge of the nature, magnitude, method and spirit of Messrs. Whitehead and Russell's great undertaking and achievement may be referred to the *Bulletin of the American Mathematical Society*, Vol. XVIII., and to Science for January 19, 1912, where will be found somewhat extensive reviews of Vol. I. of the "Principia." The immensity of Vol. II., together with its exceedingly technical content and method, make it undesirable to review this volume minutely in this journal, and the purpose of this notice is merely to signalize the appearance of the work and to indicate roughly the character and scope of its content.

Owing to the vast number, the great variety and the mechanical delicacy of the symbols employed, errors of type are not entirely avoidable and the volume opens with a rather long list of "errata to Volume I." The volume in hand is composed of three grand divisions: Part III., which deals with cardinal arithmetic; Part IV., which is devoted to what is called relation-arithmetic; and Part V., which treats of series. The theory of types, which is presented in Vol. I., is very important in the arithmetic of cardinals, especially in the matter of existence-theorems, and for the convenience of the reader Part III. is prefaced with explanations of how this theory applies to the matter in hand. In the initial section of this part we find the definition and logical properties of cardinal numbers, the definition of cardinal number being the one that is due to Frege, namely, the cardinal number of a class C is the class of all classes similar to C, where by "similar" is meant that two classes are similar when and only when the elements